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ABSTRACT

Over 200 academic year institutes for 1971-72 are described in this directory. The institutes, sponsored by the National Science Foundation at colleges and universities throughout the United States, are intended for secondary school teachers and supervisors of science, mathematics and social science. Information on eligibility, requirements, stipends and allowances, and applications is included. (PR)

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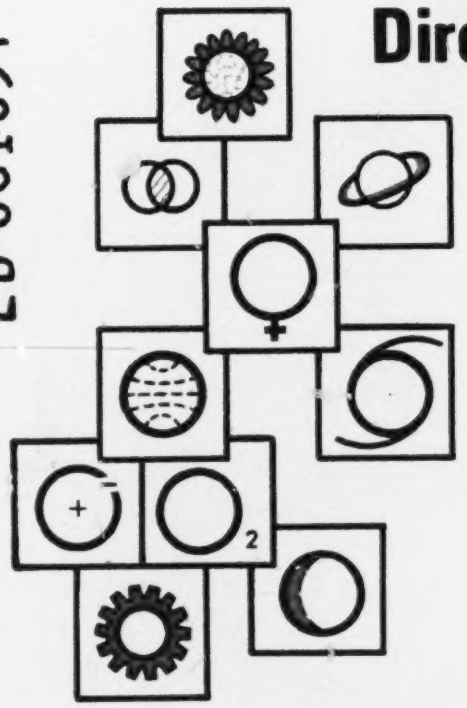
1971-72 Directory



ED 061037

IN-SERVICE INSTITUTES

for Secondary School Teachers
and Supervisors of Science,
Mathematics and Social Science

SE 013 169

Directory of In-Service Institutes for Secondary School Teachers and Supervisors of Science and Mathematics 1971-72

INTRODUCTION:

The In-Service Institutes Program of the National Science Foundation is intended to provide participants with opportunities to obtain supplemental instruction in science and mathematics at times which permit them to carry on their regular teaching duties. Funds awarded to the colleges and universities taking part in this program in the academic year of 1971-72 will make available instruction for approximately 12,000 secondary school teachers and supervisors of science and mathematics.

Similar opportunities are also available within the context of interrelated sets of teacher education activities conducted at 5 Comprehensive Projects designed to enable teachers to pursue coordinated sequences of work leading to career goals. A listing of these projects follows the list of In-Service Institutes.

Although it is quite common for an institute class to meet for about three hours once a week during the entire academic year, with some meetings being devoted to laboratory or field work, In-Service Institutes are not restricted to a particular schedule format. Sometimes a more concentrated schedule is planned for vacation periods, or an institute is completed in one semester. In some institutes the project may begin with a week of daily classes in late August; then, when school starts in September, additional meetings may be held on a weekly or biweekly basis. In metropolitan areas there are some part-time institutes which are conducted daily during several weeks of the summer. As in other In-Service Institutes, participants in such projects may receive travel and book allowances but no stipends.

In-Service Institutes, designed and conducted by universities and colleges, satisfy a variety of needs for teachers of science and mathematics. Many institutes enable teachers who may have received little formal scientific education beyond that of their undergraduate preparation to obtain additional knowledge of subject matter. Others are designed to acquaint teachers with the important new textual and laboratory materials developed by a number of study groups. Still others are concerned with modification and adaptation of existing materials to meet local needs. A number of institutes are planned to offer a sequence of courses over a period of years. These may afford participants the opportunity to study in a master's degree program, frequently in combination with participation in related Summer Institutes.

Participants will be selected on the basis of their ability to benefit from the program of the institute and their capacity to develop as teachers of science or mathematics. In the operation of the institute and in selecting individuals for participation in, and for administration of, the institute, the host institution will not discriminate on the ground of the race, creed, color, sex, or national origin of any applicant or participant.

ELIGIBILITY

Teachers of science or mathematics, or both, in grades 7 through 12 in public or non-public schools are eligible to apply for admission to the institutes listed in this directory and to receive National Science Foundation support. Supervisors of instruction in mathematics or science in secondary schools are also eligible to participate, provided that such supervision is their primary responsibility.

SUPPORT

Participants will not be charged tuition and fees. In addition, travel allowances for costs incurred in commuting, and book allowances, may be provided.

INQUIRIES AND APPLICATIONS

Requests for informational brochures and application forms, as well as other inquiries, should be sent to the appropriate institute director at the address listed on the following pages. The colleges and universities involved will administer admissions to institute programs on the basis of their own individual requirements. The National Science Foundation plays no part in determining which applicants are to be admitted to the institutes nor can it provide information as to the detailed admission requirements of the sponsoring institutions.

A deadline date for receipt of applications is set in each case by the institute director and is listed in the local brochure. Eligible teachers and supervisors are urged to submit their applications early in order to be assured of consideration for admission to the program, although in many cases applications can be considered until the beginning of the course. Other interested individuals may be permitted to attend institute classes without receiving allowances, at the discretion of the institute director.

LIST OF IN-SERVICE INSTITUTES, 1971-72

The following brief description of each institute indicates the type of institute, the general nature of the academic offerings, the number and type of personnel eligible for participation, and the location of the institute classes.

Many of the institutes are designed to implement specific curriculum revisions. The names and abbreviations of these are listed below:

BSCS ——— Biological Science Curriculum Study
CHEMS —— Chemical Education Material Study
ECCP ——— Engineering Concepts Curriculum Project
ESCP ——— Earth Science Curriculum Project

HSGP ——— High School Geography Project
IME ——— Interaction of Matter and Energy
IPS ——— Introductory Physical Science
ISCS ——— Intermediate Science Curriculum Study
PPC ——— Project Physics Course, formerly listed as HPP (Harvard Project Physics)
PS II ——— Physical Science (IPS 2nd level)
PSNS ——— Physical Science for Non-Science Students
PSSC ——— Physical Science Study Committee
SMSG ——— School Mathematics Study Group
SRSS ——— Sociological Resources for the Social Studies
SSMCIS —— Secondary School Mathematics Curriculum Improvement Study
TSM ——— Time, Space, and Matter
UICSM —— University of Illinois Committee on School Mathematics

Secondary school teachers of science and mathematics are, in general, eligible to participate in all of the institutes described in this directory. To provide guidance for teachers in the selection of institutes best suited to their needs, backgrounds, and teaching levels, however, the following code symbols are employed in the description of the individual projects:

Un ——— a unitary type of institute, which is designed to offer study during a single year for a particular group of participants.
Un* ——— a unitary institute which is part of a combined summer/in-service program of study.
Seq ——— a sequential type of institute, which is part of a coordinated sequence of in-service institutes designed to enable qualified participants to return in successive years to work toward a specific goal.

Seq*——— a sequential institute which is part of a coordinated sequence involving both in-service and summer institutes.

J——— primarily for teachers of grades 7-9 (including grades 7-8 in elementary schools).

S——— primarily for teachers of grades 9-12.

JS——— for teachers of grades 7-12 generally.

ALABAMA

UNIVERSITY OF ALABAMA IN BIRMINGHAM, Birmingham 35233. Dr. Larry K. Krannich, Department of Chemistry, College of General Studies. *Simple Mathematical Applications to Chemistry, Modern Chemistry for Teachers, Modern Chemistry and Its Relationship to Biological and Ecological Systems.* (Un, JS 20)

ALABAMA STATE UNIVERSITY, Montgomery 36101. Dr. Charles Pratt, Department of Physical Sciences and Mathematics. *Chemistry.* (Un, JS 25)

ALASKA

UNIVERSITY OF ALASKA, ANCHORAGE, Anchorage 99503. Dr. Roland F. Stickney, Department of Education. *Biological Sciences/Special Emphasis to Conservation Research.* (Un, JS 30)

ALASKA METHODIST UNIVERSITY, Anchorage 99504. Dr. William A. Lewis, Department of Education. *Environmental Studies.* (Un, JS 30)

ARIZONA

UNIVERSITY OF ARIZONA, Tucson 85721. Dr. Robert W. Hoshaw, Department of Biological Sciences. *Integrated Biology, Inorganic Chemistry, Field Studies in Environmental Science.* (Un, JS 75)

UNIVERSITY OF ARIZONA, Tucson 85721. Dr. Arthur H. Steinbrenner, Department of Mathematics. *Mathematics-SSMCIS III, IV.* (Un, JS 25)

ARIZONA STATE UNIVERSITY, Tempe 85281. Dr. Jack D. Bedient, Department of Mathematics. *Algebra and Geometry for the Junior High School Teacher, Topics in Number Theory and Analytical Geometry.* (Un, JS 60)

ARKANSAS

UNIVERSITY OF ARKANSAS, Fayetteville 72701. Dr. William R. Orton, Department of Mathematics. *Secondary School Mathematics for Teachers, Algebra I for Teachers.* (Classes to be held in El Dorado, Gravette, Nashville, and Pocohontas). *Abstract Algebra and Linear Algebra.* (Classes to be held in Little Rock). (Un, JS 100)

CALIFORNIA

UNIVERSITY OF CALIFORNIA, BERKELEY, Berkeley 94720. Dr. Wayne L. Fry, Department of Paleontology. *Earth Sciences.* (Un*, JS 35)

UNIVERSITY OF CALIFORNIA, BERKELEY, Berkeley 94720. Professor Edward C. Stone, School of Forestry and Conservation. *Biology-BSCS (Green Version).* (Un, S 30)

CALIFORNIA STATE COLLEGE AT FULLERTON, Fullerton 92631. Dr. George C. Turner, Department of Science and Mathematics Education. *Human Ecology.* (Un, JS 30)

CALIFORNIA STATE COLLEGE, HAYWARD, Hayward 94542. Dr. Colbert T. Purvis, Department of Mathematics. *Modern Introductions to: Numbers and Number Systems, Sets and Symbolic Logic, Algebraic Concepts.* (Un, J 35)

CALIFORNIA STATE COLLEGE, SAN BERNARDINO, San Bernardino 92407. Dr. Gordon E. Stanton, Department of Education. *Sociology (SRSS) and Political Science.* (Un, JS 30)

FRESNO STATE COLLEGE, Fresno 93710. Dr. Samuel P. Lyles, Jr., School of Natural Science. *Biological Science, Physical Science.* Up to 200 additional participants accepted on a tuition-free basis without book or travel allowances. (Un, JS 25)

UNIVERSITY OF THE PACIFIC, Stockton 95204. Dr. W. Michael Kaill, Department of Biological Sciences. *Biology.* (Un, JS 30)

UNIVERSITY OF REDLANDS, Redlands 92373. Dr. J. K. Trolan, Department of Physics. *Physics.* (Un, JS 30)

SAN DIEGO STATE COLLEGE, San Diego 92115. Dr. D. I. Eidemiller, Department of Geography. *Physical Geography, Earth Science, General Science.* (Un, JS 30)

SAN DIEGO STATE COLLEGE, San Diego 92115. Dr. Charles R. Burton, Department of Mathematics. *Computer Science for Teachers.* (Un, JS 50)

UNIVERSITY OF SAN FRANCISCO, San Francisco 94117. Professor Edward J. Farrell, Department of Mathematics. *Elementary Topology, Non-Euclidean Geometry.* (Seq, JS 30)

SAN FRANCISCO STATE COLLEGE, San Francisco 94132. Dr. Raymond Pestrong, Department of Geology. *Urban Environmental Approach to Earth Science (ESTPP).* (Un, JS 32)

SAN JOSE STATE COLLEGE (See page 34).

UNIVERSITY OF SANTA CLARA, Santa Clara 95053. Professor L. F. Klosinski, Department of Mathematics. *Mathematics.* (Classes to be held in Santa Clara, Oakland, and Aptos.) (Seq*, JS 100)

SONOMA STATE COLLEGE, Rohnert Park 94928. Dr. Donald G. Duncan, Department of Mathematics. *Mathematics.* (Un, JS 30)

UNIVERSITY OF SOUTHERN CALIFORNIA, Los Angeles 90007. Dr. Paul A. White, Department of Mathematics. *Concepts of Secondary Mathematics, Intermediate Algebra, Calculus, Vector Analytic Geometry.* (Un, JS 100)

COLORADO

UNIVERSITY OF COLORADO, COLORADO SPRINGS CENTER, Colorado Springs 80907. Dr. Jack Sherman, Science Education. *Physics and Chemistry-ISCS.* (Un, J 20)

COLORADO SCHOOL OF MINES, Golden 80401. Dr. Jerrold J. Burnett, Department of Physics. *Introductory Physics, Applied Physical Measurements, Introduction to Environmental Science.* (Un, JS 75)

COLORADO SCHOOL OF MINES, Golden 80401. Dr. George B. Lucas, Department of Chemistry. *Computer Science, Earth Science-ESCP, Introductory Physical Science-IPS, Physical Science-PSII.* (Un, JS 100)

FORT LEWIS COLLEGE, Durango 81301. Dr. Donald D. Bushnell, Department of Mathematics. *Geometry.* (Un, JS 30)

UNIVERSITY OF NORTHERN COLORADO, Greeley 80631. Dr. M. Lynn James, Department of Chemistry. *Computer Programming in Science.* (Un, JS 25)

UNIVERSITY OF NORTHERN COLORADO, Greeley 80631. Dr. K. L. Shropshire, Department of Earth Sciences. *Earth Science.* (Classes to be held in northeastern Colorado). (Un, JS 30)

CONNECTICUT

FAIRFIELD UNIVERSITY, Fairfield 06490. Professor Robert E. Bolger, Department of Mathematics. *Topology.* (Seq, S 35)

SAINT JOSEPH COLLEGE, West Hartford 06117. Sister M. Clare Markham, Department of Chemistry. *Biochemistry, Environmental Studies.* (Seq, JS 45)

DELAWARE

UNIVERSITY OF DELAWARE, Newark 19711. Dr. John A. Brown, Department of Mathematics and College of Education. *Mathematics.* (Classes to be held in Dover). (Seq, J 25)

DISTRICT OF COLUMBIA

THE AMERICAN UNIVERSITY, Washington 20016. Dr. Leo Schubert, Department of Chemistry. *Chemistry, Earth Sciences, History and Philosophy of Science, Mathematics.* (Seq, JS 100)

THE AMERICAN UNIVERSITY, Washington 20016. Dr. Annabelle B. Motz, Department of Sociology. *Sociology for Social Studies Teachers.* (Un, JS 60)

THE GEORGE WASHINGTON UNIVERSITY, Washington 20006. Dr. Ruth A. Bari, Department of Mathematics. *Introduction to Topology, Advanced Calculus, Seminar in Curriculum Studies, Linear Algebra.* (Seq, JS 50)

FLORIDA

UNIVERSITY OF FLORIDA, Gainesville 32601. Dr. Caspar Rappenecker, Division of Continuing Education, College of Arts and Sciences. *Introductory Physical Science (IPS).* (Classes to be held in Orlando and St. Petersburg). (Un, J 60)

UNIVERSITY OF FLORIDA, Gainesville 32601. Dr. Caspar Rappenecker, Division of Continuing Education, College of Arts and Sciences. *Earth Science (ESCP).* (Classes to be held in Jacksonville, Orlando, St. Petersburg, Tampa and West Palm Beach). (Un, JS 150)

UNIVERSITY OF FLORIDA, Gainesville 32601. Dr. Caspar Rappenecker, Division of Continuing Education, College of Arts and Sciences. *Modern Introductory Mathematics-SMSG, Modern Euclidean Geometry, Introductory Analysis.* (Classes to be held in Jacksonville, Orlando, St. Petersburg and Tampa). (Un, JS 150)

FLORIDA STATE UNIVERSITY, Tallahassee 32306. Dr. Paul Westmeyer, Department of Science Education. *Biology-BSCS (Special Materials).* (Classes to be held in St. Petersburg and Jacksonville). (Un, S 60)

GEORGIA

EMORY UNIVERSITY, Atlanta 30322. Dr. Chas. T. Lester, Dean of Graduate School of Arts and Sciences. *Introduction to Algorithms, Computation, and Machines, Introduction to Computer Science.* (Un, S 60)

UNIVERSITY OF GEORGIA, Athens 30601. Dr. Charles L. Koelsche, Department of Science Education. *Biological, Physical, and Earth Sciences.* (Classes to be held in Augusta, Toccoa, and Columbus). (Seq, JS 90)

HAWAII

UNIVERSITY OF HAWAII, Honolulu 96822. Professor Katashi Nose, Department of Physics and Astronomy. *Physical Science-PPC and PSII.* For Hawaii residents only; session August 9-21, 1971 at the University followed by monthly meetings on the islands of Oahu, Hawaii, Maui and Kauai. (Un, JS 24)

UNIVERSITY OF HAWAII, Honolulu 96822. Dr. Ruth E. M. Wong, Department of Mathematics. *Algebra, Elementary Functions, Geometry.* (Classes to be held in Honolulu, Hilo, Lihue and Wailuku). (Un, JS 80)

IDAHO

COLLEGE OF IDAHO, Caldwell 83605. Professor Boyd Henry, Department of Mathematics. *Structure of the Real Number System with Applications, Linear Algebra, Statistics with Computer.* (Un, JS 60)

ILLINOIS

DePAUL UNIVERSITY, Chicago 60614. Dr. Jerry I. Goldman, Department of Mathematics. *Introduction to Computer Science and Numerical Analysis.* (Un, S 40)

DePAUL UNIVERSITY, Chicago 60614. Dr. Joseph E. Semrad, Department of Biological Sciences. *Biology-BSCS.* First semester only. (Classes to be held at the Lincoln Park Campus). (Seq, S 50)

UNIVERSITY OF ILLINOIS AT CHICAGO CIRCLE, Chicago 60680. Professor Alice Hart, Department of Mathematics. *Mathematics (Laboratory Approach), Number Theory.* (Un, JS 60)

UNIVERSITY OF ILLINOIS AT CHICAGO CIRCLE, Chicago 60680. Dean Henry A. Setton, Box 4348, Engineering Administration. *The Man-Made World-ECCP.* (Un, JS 20)

ILLINOIS INSTITUTE OF TECHNOLOGY, Chicago 60616. Dr. Haim Reingold, Department of Mathematics. *Modern Mathematics, Junior High School Mathematics, Fundamentals of Calculus, Modern Geometry, Probability and Statistics, Computer Methods, Physics-PSSC, CHEM Study Topics.* Includes summer program June 28-August 20, 1971. (Seq, JS 230)

ILLINOIS INSTITUTE OF TECHNOLOGY, Chicago 60616. Dr. Earl Zwicker, Department of Physics. *Physics.* (Un*, S 30)

LAKE FOREST COLLEGE, Lake Forest 60045. Dr. Ralph L. Shively, Department of Mathematics. *Introduction to Modern Algebra Including Linear Algebra.* (Un, S 25)

NORTHEASTERN ILLINOIS STATE COLLEGE, Chicago 60625. Dr. Musa Qutub, Department of Earth Science. *Earth Science with an Emphasis on Environment (ESCP).* (Un, JS 25)

UNIVERSITY OF NOTRE DAME (See listing under INDIANA).

ROOSEVELT UNIVERSITY, Chicago 60605. Dr. Robert W. Estin, Department of Physics. *Physics-PSSC, Mathematical and Numerical Methods in Science, Structural Chemistry, Atomic Structure, Electricity and Magnetism, Quantum Physics.* Includes summer program June 21-August 20, 1971 in *Waves and Oscillations and Analytical Chemistry.* (Seq, S 100)

SOUTHERN ILLINOIS UNIVERSITY, Carbondale 62901. Dr. Stanley E. Harris, Jr., Department of Geology. *Earth Science–Inquiry Approach Based on Student Involvement.* One week of concentrated preliminary study, August 15-20, 1971 at Little Grassy Outdoor Laboratory. (Un, JS 20)

SOUTHERN ILLINOIS UNIVERSITY, Edwardsville 62025. Dr. Paul H. Phillips, Faculty of Mathematical Studies. *Mathematics.* (Un, JS 40)

WESTERN ILLINOIS UNIVERSITY, Macomb 61455. Dr. Douglas W. Wylie, Department of Physics. *Physics for the Non-Science Oriented Student.* (Un*, S 20)

INDIANA

INDIANA STATE UNIVERSITY, Terre Haute 47809. Dr. L. E. Poorman, Department of Physics. *Biophysics and Physics (PPC).* (Classes to be held in Evansville). (Un, S 24)

INDIANA UNIVERSITY NORTHWEST, Gary 46408. Dr. Abshalom Mizrahi, Department of Mathematics. *Applied Mathematics–Model Formulation.* (Un, S 25)

UNIVERSITY OF NOTRE DAME, Notre Dame 46556. The Reverend Michael J. Murphy, C.S.C., Department of Geology. *Fundamentals of Geology.* (Classes to be held in Chicago, Illinois). (Seq, JS 50)

UNIVERSITY OF NOTRE DAME (See page 33).

PURDUE UNIVERSITY, Lafayette 47907. Write: Dr. Robert D. Bechtel, Department of Mathematics, Calumet Campus, Hammond 46323. *Algebra, Theory of Numbers, Geometry, Analysis, Topology, Probability, Computer Programming, Numerical Analysis.* (Classes to be held in Fort Wayne, Hammond, Indianapolis, New Albany, and Westville). (Seq, JS 240)

IOWA

DRAKE UNIVERSITY, Des Moines 50311. Dean Earle L. Canfield, School of Graduate Studies. *Biology.* (Seq, JS 25)

UNIVERSITY OF IOWA, Iowa City 52240. Dr. Robert E. Yager, Science Education. *Earth Science (Field Research).* (Un, JS 20)

UNIVERSITY OF IOWA, Iowa City 52240. Dr. Robert E. Yager, Science Education. *Earth Science (ESCP), Chemistry (IPS), Biology (BSCS), Physics (ISCS).* (Classes to be held in Washington). (Un, J 40)

KANSAS

KANSAS STATE COLLEGE OF PITTSBURG, Pittsburg 66762. Dr. Harold L. Thomas, Department of Mathematics. *Mathematics.* (Classes to be held in Shawnee Mission). (Un, JS 30)

KANSAS STATE TEACHERS COLLEGE, Emporia 66801. Dr. Thomas E. Bridge, Physical Science Department. *Earth and Environmental Science (ESCP, IPS, TSM).* (Un, JS 30)

KANSAS STATE TEACHERS COLLEGE, Emporia 66801. Dr. Harold Durst, Department of Biology. *Physical Science Techniques, Modern Developments in Chemistry, Modern Developments in Physics, Recent Developments in Chemistry, Modern Developments in Algebra, Modern Developments in Geometry, Differential Equations, Innovations in the Biology Laboratory.* (Un, JS 50)

KANSAS STATE UNIVERSITY, Manhattan 66502. Dr. Lyle J. Dixon, Department of Mathematics. *Number Systems, Elementary Theory of Numbers, Introduction to Algebraic Systems, Topics in Mathematics for High School Teachers.* (Classes to be held in Topeka, Kansas City, and Salina). (Un, JS 75)

KENTUCKY

GEORGETOWN COLLEGE, Georgetown 40324. Dr. Roy A. Dobyns, Department of Mathematics. *Numerical Methods and Computer Programming, Analysis.* (Un, JS 25)

LOUISIANA

GRAMBLING COLLEGE, Grambling 71245. Dr. Samuel H. Douglas, Department of Mathematics. *Analysis, Geometry.* (Un, JS 30)

LOYOLA UNIVERSITY, New Orleans 70118. The Reverend F. A. Benedetto, S.J., Department of Physics. *Project Physics-PPC, Elements of Electricity and Electronics, Advanced Projects.* (Seq, JS 45)

LOYOLA UNIVERSITY, New Orleans 70118. Dr. Anthony DiMaggio, III, Department of Chemistry. *Survey of Fundamental Principles of Chemistry, Selected Advanced Courses.* (Seq, S 25)

LOYOLA UNIVERSITY, New Orleans 70118. Professor Lewis J. Todd, Department of Mathematics. *Geometries–Synthetic and Coordinate, Basic Analysis–A Depth Treatment.* (Seq, JS 75)

McNEESE STATE UNIVERSITY, Lake Charles 70601. Dr. S. M. Spencer, Department of Mathematical Sciences. *Biology, Mathematics.* (Seq, JS 60)

NORTHWESTERN STATE UNIVERSITY, Natchitoches 71457. Dr. Russell Whittington, Jr., Department of Mathematics. *Number Systems and Informal Geometry.* (Classes to be held in Winnfield). (Un, JS 25)

SOUTHEASTERN LOUISIANA COLLEGE, Hammond 70401. Dr. Newton S. Andrews, Department of Mathematics. *Differential and Integral Calculus of Algebraic and Transcendental Functions.* (Un, J 30)

MAINE

UNIVERSITY OF MAINE, Orono 04473. Dr. John C. Mairhuber, Department of Mathematics. *High School Curriculum Seminar, Linear Algebra.* (Seq*, JS 25)

UNIVERSITY OF MAINE, PORTLAND-GORHAM, Portland 04103. Professor Paul C. Rogers, Department of Mathematics. *Abstract Algebra, Linear Algebra.* (Un, S 20)

MARYLAND

UNIVERSITY OF MARYLAND, College Park 20742. Professor Richard A. Good, Department of Mathematics. *Applied Probability and Statistics, Introduction to Computer Languages and Systems.* (Seq, JS 40)

UNIVERSITY OF MARYLAND, College Park 20742. Dr. John A. Maccini, Department of Physics and Astronomy. *Earth Science-ESCP.* (Un, JS 60)

UNIVERSITY OF MARYLAND, College Park 20742. Dr. John A. Maccini, Department of Physics and Astronomy. *Astronomy, Oceanography.* (Un, JS 35)

MORGAN STATE COLLEGE, Baltimore 21212. Dr. Kenneth F. Jerkins, Department of Science Education. *Modern Physics (PSSC), Modern Organic Chemistry, Cellular Biology.* (Seq*, JS 75)

MASSACHUSETTS

AMERICAN INTERNATIONAL COLLEGE, Springfield 01109. Professor Henry A. Benjamin, Department of Natural Science. *Foundations of Physical Science.* (Un, JS 24)

BOSTON COLLEGE, Chestnut Hill 02167. The Reverend Stanley J. Bezuszka, S.J., Department of Mathematics. *Modern Geometry, Analysis.* (Seq, JS 60)

BOSTON STATE COLLEGE, Boston 02115. Professor G. A. Fairbanks, Physics Department. *Project Physics-PPC, Introductory Physical Science-IPS.* (Seq, JS 30)

BOSTON UNIVERSITY, Boston 02215. Professor J. Franklin Fitzgerald, School of Education. *Computer Science.* (Un, JS 30)

BOSTON UNIVERSITY, Boston 02215. Professor George E. Hein, Division of Curriculum and Instruction. *Earth and General Science.* (Classes to be held in Newton; operating cooperatively with Education Development Center, Inc.). (Un, JS 25)

BRIDGEWATER STATE COLLEGE, Bridgewater 02324. Professor Joseph B. Chiccarelli, Division of Continuing Studies. *Biology, Chemistry, Earth Science-HSGP, Mathematics, Physics.* (Un, JS 125)

EASTERN NAZARENE COLLEGE, Wollaston 02170. Dr. Gerald E. Lashley, Department of Mathematics. *History of Mathematics, Linear Algebra, Principles of Chemistry, History of Physical Science, Environmental Biology.* (Un, JS 60)

FRAMINGHAM STATE COLLEGE, Framingham 01701. Professor John T. Murray, Department of Physics. *Descriptive Astronomy.* (Un, JS 24)

COLLEGE OF THE HOLY CROSS, Worcester 01610. Professor Daniel G. Dewey, Department of Mathematics. *Finite Mathematics and Elementary Functions.* (Un, JS 25)

COLLEGE OF THE HOLY CROSS, Worcester 01610. The Reverend John W. Flavin, S.J., Department of Biology. *Environmental Biology.* (Seq, JS 20)

COLLEGE OF THE HOLY CROSS, Worcester 01610. The Reverend Robert B. MacDonnell, S.J., Department of Physics. *Physical Science.* (Un, J 35)

WORCESTER POLYTECHNIC INSTITUTE, Worcester 01609. Professor Richard F. Morton, Department of Physics. *Biology, Physics.* (Seq*, S 35)

MICHIGAN

UNIVERSITY OF DETROIT, Detroit 48221. Dr. Lyle E. Mehlenbacher, Department of Mathematics. *Mathematics For Junior High School Teachers.* (Seq, J 30)

UNIVERSITY OF DETROIT, Detroit 48221. Dr. Lyle E. Mehlenbacher, Department of Mathematics. *Mathematics.* (Seq*, S 35)

MICHIGAN STATE UNIVERSITY, East Lansing 48823. Professor Lauren G. Woodby, Department of Mathematics. *Concepts in Algebra, Concepts in Geometry, Mathematics Laboratory.* (Classes to be held in Grand Rapids). (Un, JS 35)

WAYNE STATE UNIVERSITY, Detroit 48202. Dr. Henry O. Hooper, Department of Physics. *Physics-PPC.* (Un, S 35)

WAYNE STATE UNIVERSITY, Detroit 48202. Dr. Harold W. Rossmoore, Department of Biology. *Biology (BSCS).* (Seq, JS 35)

WAYNE STATE UNIVERSITY, Detroit 48202. Dr. Harold T. Slaby, Department of Mathematics. *Linear Algebra, Calculus, Mathematics (SMSG, UICSM).* (Seq*, JS 33)

WAYNE STATE UNIVERSITY, Detroit 48202. Dr. Calvin L. Stevens, Department of Chemistry. *Chemistry.* (Un, S 30)

WESTERN MICHIGAN UNIVERSITY, Kalamazoo 49001. Dr. Clarence J. Goodnight, Department of Biology. *Biological Constituents, Evolution, Human Ecology, Invertebrate Zoology.* (Un, JS 45)

WESTERN MICHIGAN UNIVERSITY, Kalamazoo 49001. Dr. George G. Mallinson, Dean, The Graduate College. *Biology, Chemistry, Earth Science, Mathematics, Physics.* (Seq, J 50)

MINNESOTA

BEMIDJI STATE COLLEGE, Bemidji 56601. Professor Gerald J. Smith, Department of Mathematics. *Introductory Physical Science, Intermediate Science Curriculum Study-ISCS, Chemistry II*

(CHEMS), Analytical Instrumentation, Biology of Aquatic Plants and Animals in Northern Minnesota, Human Ecology, Introduction to Number Theory, Computer Programming for Secondary Teachers. (Un, JS 75)

UNIVERSITY OF MINNESOTA, Minneapolis 55455. Dr. Darrell R. Lewis, Center for Economic Education. *Intermediate Economics and American Economic Development.* (Un, S 30)

ST. CLOUD STATE COLLEGE, St. Cloud 56301. Dr. Harold Hopkins, Department of Biology. *Environmental Science, Physiology of Bacteria.* (Seq, JS 22)

MISSISSIPPI

ALCORN A. & M. COLLEGE, Lorman 39096. Dr. Henry L. Parker, Department of Biology. *Biology-BSCS, Mathematics.* (Un, JS 40)

UNIVERSITY OF MISSISSIPPI (See page 33).

UNIVERSITY OF SOUTHERN MISSISSIPPI, Hattiesburg 39401. Dr. Isadore L. Sonnier, Department of Science Education. *Earth Science-ESCP.* Two weeks of concentrated preliminary study, August 2-13, 1971. (Un, J 30)

MISSOURI

UNIVERSITY OF MISSOURI-KANSAS CITY, Kansas City 64110. Dr. Robert G. Anderson, Department of Biology. *Biology, Mathematics.* (Un, JS 70)

MISSOURI STATE EARTH SCIENCE PROJECT

Earth Science-ESCP, Physical Geology. Primarily for teachers of earth science in Missouri. A preliminary one-week program for some participants will be held at the University of Missouri-Columbia, August 11-20, followed by In-Service Institutes at the following locations:

UNIVERSITY OF MISSOURI-COLUMBIA, Columbia 65201. Project Director: Dr. Clayton H. Johnson.

UNIVERSITY OF MISSOURI-KANSAS CITY, Kansas City 64110. Local Director: Dr. Eldon J. Parizek.

NORTHEAST MISSOURI STATE COLLEGE, Kirksville 63501. Local Director: Dr. Dean A. Rosebery.

SAINT LOUIS UNIVERSITY, St. Louis 63156. Local Director: Dr. Kenneth G. Brill, Jr.

SOUTHWEST MISSOURI STATE COLLEGE, Springfield 65802. Local Director: Dr. Vincent E. Kurtz.

For further information concerning the Missouri State Earth Science Project and the five institutes listed above, write: Dr. Clayton H. Johnson, Missouri State Earth Science Project, 205 Geology Building, University of Missouri-Columbia, Columbia, Missouri 65201. (Un, JS 100)

MISSOURI STATE ECONOMICS PROJECT

Introductory Economics. Primarily for teachers of economics and social studies in Missouri. In-Service Institutes will be held at the following locations:

DRURY COLLEGE, Springfield 65802. Local Director: Dr. Elbert B. Johnson.

UNIVERSITY OF MISSOURI-COLUMBIA, Columbia 65201. Project Director: Professor William C. O'Connor.

UNIVERSITY OF MISSOURI-KANSAS CITY, Kansas City 64110. Local Director: Professor John Hodges.

UNIVERSITY OF MISSOURI-ROLLA, Rolla 65401. Local Director: Professor Curtis Adams.

UNIVERSITY OF MISSOURI-ST. LOUIS, St. Louis 63121. Local Director: Professor Joseph P. McKenna.

For further information concerning the Missouri State Economics Project and the five institutes listed above, write: Professor William C. O'Connor, Missouri State Economics Project, Department of Economics, University of Missouri-Columbia, Columbia, Missouri 65201. (Un, JS 100)

SAINT LOUIS UNIVERSITY, St. Louis 63103. Dr. John J. Andrews, Department of Mathematics. *Mathematics.* (Seq, JS 60)

NEBRASKA

CHADRON STATE COLLEGE, Chadron 69337. Dr. Arthur W. Struempler, Department of Chemistry. *Earth Science, Chemistry, Physics.* (Classes to be held in Valentine, Ogallala, and Chadron, Nebraska, and Rapid City, South Dakota). (Un, JS 75)

UNIVERSITY OF NEBRASKA AT OMAHA, Omaha 68101. Dr. Merle E. Brooks, Department of Biology. *Animal Behavior, Microbiology, Modern Developments in Physics, Geology, Math Analysis, The Man-Made World-ECCP.* (Seq, JS 65)

NEVADA

FORESTA INSTITUTE FOR OCEAN AND MOUNTAIN STUDIES, Carson City 89701. Dr. Richard Gordon Miller, Director, Box 620. *Environmental Sciences-Ecology.* (Un, JS 20)

NEW HAMPSHIRE

DARTMOUTH COLLEGE, Hanover 03755. Dr. William W. Ballard, Department of Biological Sciences. *Tools and Techniques for Exploring the Biological World.* (Un, JS 40)

NEW ENGLAND COLLEGE, Henniker 03242. Professor Thomas O'Donnell, Natural Sciences Division. *Computer-Assisted Mathematics Instruction.* (Un, S 15)

UNIVERSITY OF NEW HAMPSHIRE, Durham 03824. Dr. Richard H. Balomenos, Department of Mathematics. *Structure of Real Numbers, Linear Algebra.* (Seq*, JS 20)

PLYMOUTH STATE COLLEGE, Plymouth 03264. Dr. Eldwin A. Wixson, Department of Mathematics. *Mathematics-UICSM (Stretchers and Shrinkers, Motion Geometry).* One week of concentrated preliminary study, August 23-27, 1971. (Un, J 40)

NEW JERSEY

DREW UNIVERSITY, Madison 07940. Dr. Bernard Greenspan, Department of Mathematics. *Introduction to Modern Algebra.* (Un, S 24)

MONMOUTH COLLEGE, West Long Branch 07764. Dr. Leo M. Wulf, Department of Mathematics. *Introduction to Analysis, Abstract Algebra.* (Un, JS 25)

RUTGERS UNIVERSITY, New Brunswick 08903. Dr. Joshua Barlaz, Department of Mathematics. *Calculus, Vector Geometry, Number Theory, Seminar.* (Classes to be held in Camden and New Brunswick). (Seq, JS 60)

SAINT PETER'S COLLEGE, Jersey City 07306. Dr. James J. Grant, Department of Physics. *Physics-PPC.* (Un, S 15)

SAINT PETER'S COLLEGE, Jersey City 07306. Professor Francis A. Varrichio, Department of Mathematics. *Mathematics, Computer Science.* (Un, JS 40)

NEW MEXICO

UNIVERSITY OF NEW MEXICO, Albuquerque 87106. Dr. Merle Mitchell, Department of Mathematics. *Topics in Higher Algebra, Topics in Geometry.* (Un, S 25)

NEW YORK

ADELPHI UNIVERSITY, Garden City 11530. Dr. Frederick A. Bettelheim, Department of Chemistry. *Physical and Mathematical Approach to Chemistry.* (Seq*, S 30)

ADELPHI UNIVERSITY, Garden City 11530. Professor Eugene Levine, Department of Mathematics. *Algebra, Geometry, Probability, Topology, Numerical and Applied Analysis.* (Un*, JS 100)

STATE UNIVERSITY OF NEW YORK AT BINGHAMTON, Binghamton 13901. Dr. Donald R. Coates, Department of Geology. *Environmental Science.* (Un, JS 25)

BROOKLYN COLLEGE, Brooklyn 11210. Dr. Meyer Jordan, Department of Mathematics. *Mathematics for Junior High School Teachers (SSMCIS), Logic and Set Theory, Probability and Statistics, A Modern Approach to High School Geometry (SMSG), Modern Geometries, Algebraic*

Systems, Linear Algebra, Mathematical Applications of Computers, Numerical Analysis.
(Un, JS 210)

STATE UNIVERSITY COLLEGE AT BUFFALO, Buffalo 14222. Dr. William C. Schefler, Department of Biology. *Population and Environmental Problems.* (Un, JS 25)

STATE UNIVERSITY COLLEGE AT BUFFALO, Buffalo 14222. Dr. Joseph S. Zingaro, Department of Chemistry. *Basic Mathematics, Special Topics in Inorganic Chemistry, and Basic Principles of Organic Chemistry.* (Un, J 30)

FORDHAM UNIVERSITY, Bronx 10458. The Reverend Edward W. Brande, S.J., Department of Mathematics. *Linear Algebra, Projective Geometry, Selected Advanced Courses.* (Seq*, JS 80)

STATE UNIVERSITY COLLEGE AT GENESEO, Geneseo 14454. Dr. Archibald Reid, Department of Biology. *Biology.* (Un, JS 24)

HOFSTRA UNIVERSITY, Hempstead, Long Island 11550. Dr. Jerry B. Davis, Department of Secondary Education. *Biology-BSCS.* (Un, S 24)

MANHATTAN COLLEGE, Bronx 10471. Dr. George J. Crowe, Department of Physics. *Statistical Thermodynamics, Nuclear Physics.*
(Seq*, S 40)

MANHATTAN COLLEGE, Bronx 10471. Professor B. John McNamara, Department of Mathematics. *Topics in Algebra and Analysis.* Includes summer program, July 1-August 12, 1971 in *Applied Mathematics, Numerical Analysis.*
(Seq, JS 60)

MANHATTAN COLLEGE, Bronx 10471. Professor Luke V. Titone, Department of Physics. *Mechanics, Electricity and Magnetism.*
(Seq, JS 20)

NEW YORK UNIVERSITY, New York 10012. Professor Martin D. Burrow, Department of Mathematics, 251 Mercer Street. *Mathematics.*
(Seq, JS 210)

STATE UNIVERSITY COLLEGE AT OSWEGO, Oswego 13126. Dr. J. Nathan Swift, Department of Secondary Education. *Earth Science.* (Un, JS 30)

PACE COLLEGE, New York 10038. Dr. Anthony J. Konde, Department of Chemistry and Physical Sciences. *Analytical Chemistry, Biochemistry, Instrumental Analysis.* (Classes to be held at New York City campus). *Astronomy.* (Classes to be held at Pleasantville campus). (Un, JS 100)

POLYTECHNIC INSTITUTE OF BROOKLYN, Brooklyn 11201. Dr. E. J. Piel, Box 100. *The Man-Made World-ECCP.* (Classes to be held at the Graduate Center, Farmingdale, Long Island). (Un, S 30)

QUEENS COLLEGE, Flushing 11367. Dr. Devra Lee Davis, Department of Sociology. *Sociological Resources for the Social Studies.* Two weeks of concentrated preliminary study, August 23-September 3, 1971. (Un, S 40)

UNION COLLEGE, Schenectady 12308. Dr. Edwin F. Gillette, Department of Mathematics. *Environmental Biology, General Geology, Curricular Materials in Mathematics.* (Seq, JS 75)

YESHIVA UNIVERSITY, New York 10033. Dr. Abe Gelbart, Belfer Graduate School of Science. *Mathematics, Physics.* (Seq, JS 500)

NORTH CAROLINA

EAST CAROLINA UNIVERSITY, Greenville 27834. Dr. Robert L. Dough, Department of Science Education. *Physics-PPC.* (Un*, S 24)

EAST CAROLINA UNIVERSITY, Greenville 27834. Dr. Floyd E. Matthesis, Department of Science Education. *Basic Life Processes, Diversity of Living Things.* (Un*, J 80)

UNIVERSITY OF NORTH CAROLINA AT ASHEVILLE, Asheville 28801. Dr. S. Dexter Squibb, Department of Chemistry. *Organic Compounds of Biological Interest.* (Seq, S 24)

UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL, Chapel Hill 27514. Dr. William A. White, Department of Geology. *Physical Geology for Secondary School Teachers.* (Classes to be held in Statesville). (Un, J 30)

NORTH CAROLINA ACADEMY OF SCIENCE, Meredith College, Raleigh 27602. Write: Professor Anna Joyce Reardon, Department of Physics, University of North Carolina at Greensboro, Greensboro 27412. *Conference on Recent Advances in Physics.* (Conference to be held at University of North Carolina at Chapel Hill, December 27-28, 1971). (Un, JS 120)

WAKE FOREST UNIVERSITY, Winston-Salem 27109. Dr. Ben M. Seelbinder, Department of Mathematics. *Elementary Number Theory, Elementary Probability and Statistics.* (Un, JS 25)

NORTH DAKOTA

NORTH DAKOTA STATE UNIVERSITY, Fargo 58102. Dr. Robert D. Koob, Department of Chemistry. *Advanced Chemistry for High School Teachers, Electronic Structure of Molecules.* (Seq, S 30)

OHIO

BOWLING GREEN STATE UNIVERSITY, Bowling Green 43403. Dr. J. Frederick Leetch, Department of Mathematics. *Number Theory and Computers, Introduction to Higher Geometry, Analysis.* (Classes to be held at Bowling Green and the University of Toledo). (Seq, JS 40)

UNIVERSITY OF CINCINNATI, Cincinnati 45221. Dr. Raymond H. Rolwing, Department of Mathematics. *Junior High School Mathematics, Linear Algebra, Modern Geometries, Computer-Oriented Calculus.* (Classes to be held in Covington, Kentucky, Blue Ash and Cincinnati). (Un, JS 100)

JOHN CARROLL UNIVERSITY, Cleveland 44118. Dr. Harry C. Nash, Department of Physics. *Modern Physics.* (Un*, S 24)

JOHN CARROLL UNIVERSITY, Cleveland 44118. Dr. Harry C. Nash, Department of Physics. *Selected Topics in Physics.* (Un, JS 40)

KENT STATE UNIVERSITY, Kent 44242. Dr. Kenneth B. Cummins, Department of Mathematics. *Calculus and Analysis for Teachers.* (Un, S 40)

MIAMI UNIVERSITY, Oxford 45056. Dr. Charles M. Vaughn, Department of Zoology and Physiology. *Biology and Environmental Science-BSCS.* (Un, JS 25)

MIAMI UNIVERSITY, Oxford 45056. Dr. Charles M. Vaughn, Department of Zoology and Physiology. *Comparative Animal Physiology and Modern Microbiology.* (Un, JS 25)

THE OHIO STATE UNIVERSITY, Columbus 43210. Dr. Victor J. Mayer, Department of Geology. *Environmental Geology.* (Un, JS 30)

THE OHIO STATE UNIVERSITY, Columbus 43210. Dr. William R. Riley, Department of Physics. *Individualized Laboratory Physics for Teachers.* (Un, S 25)

OHIO UNIVERSITY, Athens 45701. Dr. Ray Skinner, Jr., Department of Secondary Education. *Environmental Studies-Earth Science (ESTPP).* One week of concentrated preliminary study, late August, 1971, at Environmental Study Center, Lake Hope. (Un, JS 24)

OHIO UNIVERSITY, Athens 45701. Dr. Roman F. Warmke, Department of Economic Education. *Economics in the Curriculum.* (Un, JS 40)

OKLAHOMA

NORTHWESTERN STATE COLLEGE, Alva 73717. Dr. Stearns Walter Rogers, Science Division. *Mathematics and Physical Science Laboratories.* (Un, S 20)

UNIVERSITY OF OKLAHOMA, Norman 73069. Dr. Edward C. Stoever, Jr., School of Geology and Geophysics, 830 Van Vleet Oval. *Individualizing Earth Science Instruction (ESCP).* (Un, J 30)

UNIVERSITY OF OKLAHOMA, Norman 73069. Dr. R. V. Andree, Department of Mathematics. *Computer Programming and Related Mathematics, Junior High School Mathematics, Calculus, Matrix Theory.* (Un, JS 90)

OREGON

MARYLHURST COLLEGE, Marylhurst 97036. Sister M. Loretta Ann Colbert, Department of Science and Mathematics. *Basic Concepts of Geometry, Abstract Algebra.* (Seq, JS 50)

UNIVERSITY OF OREGON, Eugene 97403. Professor A. F. Moursund, Department of Mathematics. *Foundations of Arithmetic and Algebra, Introduction to Topology.* (Seq*, JS 50)

OREGON COLLEGE OF EDUCATION, Monmouth 97361. Dr. Ronald L. Chatham, Department of Social Science. *World Regional Geography.* (Un, JS 30)

OREGON COLLEGE OF EDUCATION, Monmouth 97361. Dr. Helen M. Redbird, Department of Social Science. *Sociology of Race Relations.* (Un, JS 40)

PORTLAND STATE UNIVERSITY, Portland 97207. Dr. J. Kenneth Harris, Department of Mathematics. *Algebra, Geometry.* (Un, JS 30)

REED COLLEGE, Portland 97202. Dr. Kenneth E. Davis, Department of Physics. *Mathematics, Physics: The Man-Made World-ECCP, Chemistry.* (Un, S 75)

PENNSYLVANIA

CARLOW COLLEGE, Pittsburgh 15213. Dr. William A. Uricchio, Department of Biology. *Biology (BSCS).* (Seq, JS 30)

DREXEL UNIVERSITY, Philadelphia 19104. Dr. Robert L. Hamman, Department of Economics. *Economics.* (Seq*, JS 40)

EDINBORO STATE COLLEGE, Edinboro 16412. Dr. Michael C. Schneider, Department of Earth Sciences. *Earth Science-ESCP-ES.* (Un, JS 25)

LAFAYETTE COLLEGE, Easton 18042. Dr. Larry R. Mugridge, Department of Mathematics. *Elementary Calculus I, II.* (Un, JS 35)

MILLERSVILLE STATE COLLEGE, Millersville 17551. Professor William B. McIlwaine, Department of Earth and Space Science. *Environmental Chemistry, Biological Techniques, Problems in Earth Science.* (Un, JS 75)

UNIVERSITY OF PENNSYLVANIA, Philadelphia 19104. Dr. Emily S. Girault, Graduate School of Education. *Basic Sociology-SRSS.* (Un, JS 30)

UNIVERSITY OF SCRANTON, Scranton 18510. Dr. Harry B. Strickland, Dean, Graduate School. *Environmental Biology, Chemical Education Material and Systems, Introduction to Computers and their Application, Introduction to Electronics and Electronic Instruments.* (Seq, JS 100)

TEMPLE UNIVERSITY, Philadelphia 19122. Dr. Marie A. Wurster, Department of Mathematics. *Concepts of Geometry, Intermediate Analysis, Problem Seminar.* (Seq, JS 65)

VILLANOVA UNIVERSITY, Villanova 19085. Sister M. Cordia Ehrman, Department of Mathematics. *Astronomy, Chemistry, Geology, Mathematics, Introductory Physical Science-IPS.* (Un, JS 92)

WEST CHESTER STATE COLLEGE, West Chester 19380. Dr. Richard G. Branton, Department of Mathematics. *Modern and Linear Algebra, Modern Geometry, Topology, Calculus, Mathematical Statistics.* (Un, JS 80)

RHODE ISLAND

BROWN UNIVERSITY, Providence 02912. Dr. Reginald D. Archambault, Department of Education. *Political Science.* (Un, JS 45)

RHODE ISLAND COLLEGE, Providence 02908. Dr. James E. Bierden, Department of Mathematics. *Abstract Algebra.* (Un, JS 30)

SOUTH CAROLINA

THE CITADEL, Charleston 29409. Professor J. R. Ingraham, Department of Mathematics. *Mathematics.* (Seq, JS 30)

CLEMSON UNIVERSITY, Clemson 29631. Dr. James L. Flatt, Department of Mathematics. *Mathematics for Secondary School Teachers.* (Classes to be held in Greenville). (Un, JS 40)

UNIVERSITY OF SOUTH CAROLINA, Columbia 29208. Dr. Tudor T. Davies, Department of Geology. *Earth Science-ESCP.* (Classes to be held in Florence and Columbia). *Environmental Earth Science.* (Classes to be held in Greenville). (Seq, J 75)

SOUTH CAROLINA STATE COLLEGE, Orangeburg 29115. Dr. Lewie C. Roache, Department of Natural Sciences. *Biology-BSCS, Chemistry-CHEMS.* (Un, JS 50)

SOUTH DAKOTA

UNIVERSITY OF SOUTH DAKOTA (See page 34).

TENNESSEE

KNOXVILLE COLLEGE, Knoxville 37921. Professor Trenton Cooper, Department of Physics. *Selected Topics in Organic Chemistry, Selected Topics in Physical Science.* (Un, JS 30)

KNOXVILLE COLLEGE, Knoxville 37921. Professor James E. Yeary, Department of Mathematics. *Discovery Approach in Modern Mathematics.* (Un, JS 25)

TEXAS

EAST TEXAS STATE UNIVERSITY, Commerce 75428. Professor Charles S. Rohrer, Department of Chemistry. *Chemistry, Earth Science, Physics.* (Seq, JS 45)

UNIVERSITY OF HOUSTON, Houston 77004. Dr. John L. Creswell, Department of Curriculum and Instruction. *Mathematics-UICSM.* (Un, J 30)

UNIVERSITY OF HOUSTON, Houston 77004. Professor James R. Solliday, Department of Geology. *Earth Science-ESCP.* (Un, J 25)

INCARNATE WORD COLLEGE, San Antonio 78209. Sister Joseph Marie Armer, Department of Biology. *Bio-organo Chemistry, Cell Physiology, Animal Physiology.* (Seq, JS 40)

INCARNATE WORD COLLEGE, San Antonio 78209. Sister Claude Marie Faust, Department of Mathematics. *Introduction to Matrices and Vectors, Linear Algebra.* (Seq, JS 25)

TEXAS CHRISTIAN UNIVERSITY, Fort Worth 76129. Dr. Landon A. Colquitt, Department of Mathematics. *Numerical Analysis (Computer-Oriented).* (Seq, JS 25)

TEXAS SOUTHERN UNIVERSITY, Houston 77004. Dr. Robert J. Terry, Department of Biology. *Molecular Genetics, Plant Biology.* (Un, JS 25)

TEXAS TECH UNIVERSITY, Lubbock 79409. Dr. Charles L. Riggs, P.O. Box 4010, Department of Mathematics. *Algebra for Teachers, Introductory Probability and Statistics.* (Un, JS 25)

UTAH

UNIVERSITY OF UTAH, Salt Lake City 84112. Dr. William R. Derrick, Department of Mathematics. *Introductory Calculus, Mathematics.* (Un, JS 26)

UTAH STATE UNIVERSITY, Logan 84321. Write: Dr. Marden Broadbent, Institute and District Extension Director, Room B-5, Federal Building, Provo 84601. *Modern Biology for Secondary Teachers.* (Classes to be held in Provo). (Seq, JS 25)

UTAH STATE UNIVERSITY, Logan 84321. Write: Dr. Marden Broadbent, Institute and District Extension Director, Room B-5, Federal Building, Provo 84601. *Modern Mathematics, Vector Geometry-UICSM.* (Classes to be held in Sandy, Utah, Jordan School District headquarters). (Seq, JS 30)

UTAH STATE UNIVERSITY, Logan 84321. Dr. Neville C. Hunsaker, Department of Mathematics. *Topics Related to Teaching General Mathematics in the Secondary Schools.* (Classes to be held in Ogden). (Un, JS 30)

VIRGINIA

HAMPTON INSTITUTE, Hampton 23368. Dr. Victor H. Fields, Department of Chemistry. *Organic Chemistry, Foundations of Algebra and Geometry.* (Seq, JS 50)

UNIVERSITY OF VIRGINIA, Charlottesville 22903. Dr. Ertle Thompson, Department of Science Education. *Earth Science (ESCP).* (Classes to be held in Richlands-Tazewell, Hampton-Newport News). *Physical Science (IPS).* (Classes to be held in Big Stone Gap, Richmond-Chesterfield-Henrico, Fairfax-Prince William). *Chemistry (CHEMS).* (Classes to be held in Roanoke, Richmond-Chesterfield-Henrico). *Physics (PPC).* Classes to be held in Chesapeake-Virginia Beach-Portsmouth, Fairfax-Prince William). *Biology (BSCS Special Materials).* (Classes to be held in Farmville-Prince Edward, Staunton-Harrisonburg). *Mathematics* (Classes to be held in Lynchburg). (Un, JS 300)

VIRGINIA STATE COLLEGE, Petersburg 23803. Dr. Hunter Hamlett, Department of Biology-Science Education. *Biology, Earth Science, Mathematics.* (Seq, JS 70)

VIRGINIA STATE COLLEGE, Petersburg 23803. Dr. Hunter Hamlett, Department of Biology-Science Education. *Biology Conference, Earth Science Conference.* (Un, JS 300)

COLLEGE OF WILLIAM AND MARY, Williamsburg 23185. Dr. Thomas L. Reynolds, Department of Mathematics. *College Geometry, Mathematics in the Secondary Schools (Modern Algebra).* (Classes to be held in Chesapeake). (Un, JS 30)

WASHINGTON

FORT WRIGHT COLLEGE, Spokane 99204. Sister Ione Gautereaux, Department of Science. *Environmental Biology, Experimental Ecology, Modern Topics in Chemistry, Biochemistry, Urban Geography, Mineralogy.* (Seq, JS 75)

PACIFIC LUTHERAN UNIVERSITY, Tacoma 98447. Dr. John O. Herzog, Department of Mathematics. *Modern Geometry, Modern Algebraic Concepts.* (Un, J 35)

UNIVERSITY OF WASHINGTON, Seattle 98105. Dr. Thomas G. Stoebe, Division of Metallurgical Engineering, 326 Roberts Hall. *Applied Materials Science for Secondary Teachers of Science.* (Seq, JS 35)

WEST VIRGINIA

WEST VIRGINIA UNIVERSITY, Morgantown 26506. Professor I. Dee Peters, Department of Mathematics. *Linear Algebra, Special Topics in Computer-Oriented Analysis, Applied Modern Algebra, Workshop for Physics Teachers.* Includes summer program July 26-August 13, 1971 in *Motion Geometry-UICSM.* (Mathematics classes to be held in Charleston KVGC, Keyser, Wheeling, Lewisburg and Parkersburg; physics classes in Salem). (Un, JS 145)

WISCONSIN

MILWAUKEE AREA TECHNICAL COLLEGE, Milwaukee 53203. Dr. Thomas J. McHale, Research Coordinator. *Technical Mathematics.* (Un, S 30)

UNIVERSITY OF WISCONSIN-MILWAUKEE, Milwaukee 53201. Professor Glenn M. Schmieg, Department of Physics. *Physics-PPC, Astronomy.* (Un, JS 42)

WISCONSIN STATE UNIVERSITY-SUPERIOR, Superior 54880. Dr. Phillip R. Brieske, Center for the Advancement of Science Education. *Physical Science-IPS and PS II.* (Classes to be held on WSU campuses in Eau Claire, La Crosse, Oshkosh, Platteville, River Falls, Stevens Point, Superior, and Whitewater). (Un, JS 240)

WYOMING

UNIVERSITY OF WYOMING, Laramie 82070. Dr. Bill W. Tillery, Science Teaching Center, Department of Physics. *Biological Science-BSCS and ISCS.* (Classes to be held in Cheyenne, Lander, Casper, and Powell). (Un, S 40)

UNIVERSITY OF WYOMING (See page 34).

PUERTO RICO

CATHOLIC UNIVERSITY OF PUERTO RICO, Ponce 00731. Professor Luis A. Escabi, Department of Biology. *Genetics.* (Un, S 20)

UNIVERSITY OF PUERTO RICO, Cayey 00633. Dr. Mariano Garcia, Department of Mathematics. *Mathematics-SMSG.* (Un, JS 30)

UNIVERSITY OF PUERTO RICO, Rio Piedras 00931. Dr. Augusto Bobonis, Department of Mathematics. *College Algebra and Trigonometry, Mathematical Analysis-II, III.* (Seq*, JS 90)

LIST OF COMPREHENSIVE PROJECTS 1971–72

Comprehensive Projects represent integrated approaches to teacher education with both pre-service and in-service components that offer opportunities for full- and part-time study during the academic year and summer. The following brief description of each project indicates the general nature of the academic offerings. Each project gives priority to applicants from the particular geographic area indicated in the project description. Teachers interested in pursuing a coordinated sequence of work, which might involve various combinations of full-time and part-time academic year and summer study, leading to a specific goal should contact individual project directors at the indicated addresses for details.

UNIVERSITY OF MISSISSIPPI, University, Mississippi 38677

Study in *Biology* and *Chemistry* for junior and senior high school teachers of science, primarily in Mississippi. Opportunities available to secondary teachers at all levels of preparation, with special programs for key teachers, supervisors, supervisor-trainees and teacher-interns. Consultation and resources available to teachers and administrators in Mississippi. Dr. William H. Norman, Science Education Center.

UNIVERSITY OF NOTRE DAME, Notre Dame, Indiana 46556

Study in *Mathematics* for junior and senior high school teachers of mathematics. Priority given to teachers in St. Joseph County, Indiana, but other teachers will also be accepted as participants. Instructional program centered around sequence leading to M. S. degree in mathematics. Opportunities available for training in the conduct of in-service programs. Special programs for intern-teachers and for supervisor-trainees. Consultation available to teachers and administrators in St. Joseph County, Indiana. Dr. Abraham Goetz, Department of Mathematics.

SAN JOSE STATE COLLEGE, San Jose, California 95114

Study in *Mathematics* for junior and senior high school teachers in California counties north of Santa Barbara County and in western Nevada. Opportunities available to teachers at all levels of preparation include programs in computer science, the study of curriculum materials, research participation, and the conduct of in-service programs. Special program for intern-teachers and for supervisor-trainees. Consultation available to teachers and administrators in service-area indicated above. Dr. Robert Pruitt, Department of Mathematics.

UNIVERSITY OF SOUTH DAKOTA, Vermillion, South Dakota 57069

Study in *Chemistry* and *Biology* for junior and senior high school teachers of these subjects, primarily in South Dakota, Iowa, Minnesota, Nebraska, and North Dakota. Opportunities available for training in the conduct of in-service programs which emphasize new curriculum materials. Special program for intern-teachers. Consultation available to teachers and administrators in service-area indicated above. Dr. Charles R. Estee, Department of Chemistry.

UNIVERSITY OF WYOMING, Laramie, Wyoming 82070

Study in *Physics, Chemistry* and *Physical Science* for junior and senior high school teachers of these subjects, primarily in the Rocky Mountain and Plains states. Opportunities available for training in the conduct of in-service programs at "portal schools" dealing with new curriculum materials, research participation together with high school students from the teachers' home school, and the development of classroom and laboratory materials. Special programs for intern-teachers. Consultation available to teachers and administrators in service-area indicated above. Dr. Robert J. Bessey, Department of Physics.

OTHER NATIONAL SCIENCE FOUNDATION PROGRAMS FOR TEACHERS

The National Science Foundation will furnish, upon request, directories listing institutions taking part in the NSF-supported teacher education programs listed below:

Summer Institutes for Secondary School Teachers of Science, Mathematics, and Social Science, 1972 (E71-P-11). Available January 1972. Application deadline for 1972 will be February 15, 1972.

Academic Year Institutes for Secondary School Teachers and Supervisors of Science, Mathematics, and Social Science, 1972-73 (E71-P-9). Available December 1971. Application deadline for 1972-73 will be January 20, 1972.

Programs designed for junior college and college teachers are listed in the *College Teacher Programs–Directory*–(E71-U-9). Available December 1971. See directory for application deadlines.

The National Science Foundation supports *Cooperative College-School Science Programs* which are locally oriented and concerned with improvements of school systems, including teacher training in science and mathematics. The directory (E72-P-23) of projects for the summer of 1972 and academic year 1972-73 will be available in January 1972. These projects usually are given extensive local publicity. Teacher-participants are personnel of the cooperating school systems.

Please request each directory separately. Requests may be sent at any time and the directory will be mailed when available. Print or type your name, address, and the exact title and publication number of the desired program directory on a postal card and send it to:

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